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THE EFFECT OF FOOD STAMP CASHOUT ON FOOD EXPENDITURES:

AN ASSESSMENT OF FINDINGS FROM FOUR EVALUATIONS

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Title Page

INTRODUCTION

Are food stamps more effective than cash assistance in increasing expenditures on food by low-income households? Beginning with Southworth's (1945) theoretical analysis of methods to subsidize food consumption, a large literature addressing this question has accumulated. Recent articles addressing this topic, including a number that have appeared in *AJAE* (Basiotis et al., 1983; Devaney and Fraker, 1989; Senauer and Young, 1986), have tended to be empirical in nature.

Empirical research on the effects of alternative forms of food subsidies on food expenditures has been hampered by the absence of experience in using cash alternatives to the usual food coupons in distributing benefits to eligible low-income households under the Food Stamp Program (FSP).[1] Researchers have responded to this limitation by using ordinary cash income as a proxy for cash food assistance, and estimating econometric models of the effects of ordinary cash income and of food coupons on household food expenditures. In a review of 19 such studies, Fraker (1990) reports that most estimates of the marginal impact of food stamp coupons on food expenditures range from .17 to .47, compared with estimates of .05 to .10 for ordinary cash income. These estimates imply that the cashing-out of food stamp benefits would result in a substantial reduction in the impact of the benefits on household food expenditures. This conclusion is at odds with Southworth's theoretical analysis, which indicates that the cashing-out of food stamp benefits would affect the food expenditure behavior of only a small minority of households--those whose food stamp benefits exceed their desired levels of food expenditures.

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[1]Prior to the cashout experiments that are the subject of this paper, the only experiences with the issuance of food stamp benefits in the form of checks rather than coupons were in Puerto Rico, where households have been receiving food assistance in the form of checks since 1982, and in Utah, Vermont, and portions of six other states, where a 1981 demonstration program provided elderly and disabled persons with food stamp and Supplemental Security Income benefits in the form of a single combined check. Evaluations of these examples of food stamp cashout by Butler, Ohls, and Posner (1985) and Devaney and Fraker (1986) found no statistically significant effects on household food expenditures. Because of the unique populations studied, the findings cannot be generalized with confidence to the entire food stamp caseload.

In part because the cost of administering a coupon-based FSP is believed to be substantially greater than that of administering a cash-based program, the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture, which administers the FSP at the federal level, is interested in the relative effectiveness of coupon versus cash benefits in increasing expenditures on food. If the difference in effectiveness is small, then the potential savings in FSP administrative costs may warrant the conversion from food stamp coupons to food stamp checks. Additional potential benefits of cash issuance may accrue to recipient households in the form of reductions in the stigma associated with obtaining and using food stamp benefits, and the development of the budgeting and shopping skills that are needed to successfully manage personal finances outside of the welfare system.

Given the conflicting theoretical and empirical evidence on the effectiveness of cash and coupon food assistance in increasing food expenditures, and the major cost and other implications of the form of the food stamp benefit, in the late 1980s FNS authorized a number of demonstrations of food stamp cashout--the issuance of food stamp benefits in the form of checks rather than the traditional coupons. These demonstrations provided the opportunity to collect and analyze data on the food consumption behavior of food stamp recipients in the presence of actual cash food assistance benefits. FNS sponsored evaluations of four of the demonstrations--two in Alabama and one each in Washington and in San Diego County, California. These evaluations consistently found that cashout resulted in large reductions in the cost of administering the FSP. However, the findings regarding effects on household food expenditures appear to be far more heterogeneous. This article shows that a more homogeneous set of expenditure findings can be obtained from these evaluations if the question that one is attempting to answer is posed somewhat differently than was originally the case.

DESCRIPTION OF THE CASHOUT DEMONSTRATIONS

Each of the four demonstrations of food stamp cashout that are the subject of this article had one of two basic designs:

- *An experimental design.* Two of the demonstrations entailed only a single policy change--the issuance of food stamp benefits in the form of checks rather than coupons. These demonstrations, referred to as the "pure" food stamp cashout demonstrations, were conducted in San Diego County and in 12 counties in Alabama. In San Diego, 20 percent of new and continuing food stamp households were randomly selected to receive their benefits in the form of checks rather than coupons. Approximately 600 of these households constituted the demonstration's treatment sample. An equivalent control sample of households that received the traditional coupons was also selected. In the 12 Alabama counties, only 4 percent of the caseload was randomly selected to receive cash benefits. The Alabama treatment and control samples each included approximately 1,200 households.

- *A matched treatment/comparison site design.* In each of the other two demonstrations, food stamp cashout was just one component of a comprehensive package of reforms to the welfare system. This included reforms of cash welfare programs, medical assistance, job training, and child care, as well as food assistance. These demonstrations entailed the implementation of the reforms in selected demonstration counties, each of which had been paired with an economically and demographically similar comparison county in which the reforms were not implemented. Five such pairs of counties participated in the Washington Family Independence Program (FIP), while three matched pairs of counties participated in the Alabama Avenues to Self-Sufficiency through Employment and Training (ASSETS) program. In the FIP demonstration counties, all eligible applicants for both food stamp benefits and Aid to Families with Dependent Children were issued food stamp benefits in the form of checks. In the ASSETS demonstration counties, the entire food stamp caseload was issued food stamp checks. The cashout demonstration evaluations were based on data for approximately 800 households in Washington and 1,400 households in Alabama, divided roughly equally between demonstration and comparison counties.

The key advantage of an experimental design over a matched treatment/comparison site design is that the former should, in principle, result in treatment and control samples that differ systematically only with respect to the receipt of the treatment. There should be no systematic differences between the samples in characteristics that might influence the outcome of interest and thereby bias estimates of the treatment effect. Another advantage of the pure cashout demonstrations, not directly related to their experimental designs, is that cashout was the sole policy change, thus eliminating the risk that the observed outcome might be entirely attributed to cashout when, in fact, it was the result of multiple policy changes. The FIP and ASSETS demonstrations lacked these advantages; however, the large scale of cashout in the FIP and ASSETS demonstration counties made it possible, in principle, for the evaluations of these demonstrations to capture "community effects" on the outcome measures. In the context of cashout,

Title Page

community effects are changes made in response to cashout by individuals or institutions other than the

behavior. For example, the raising of rents by landlords after learning that the food stamp recipients who live in their apartments have higher cash incomes could possibly result in a community effect. Demonstrations with experimental designs are generally incapable of capturing community effects because the policy change being tested is implemented on only a fraction of the eligible population and, hence, is less perceptible to the community at large.

The evaluations of the four cashout demonstrations each included an in-person survey of the samples of recipients of food stamp checks and coupons. The surveys obtained information on household

FINDINGS ON FOOD EXPENDITURES FROM THE DEMONSTRATION EVALUATIONS

The evaluations of the food stamp cashout demonstrations sought to answer the question, "Does cashout result in a reduction in expenditures on food by food stamp recipients; if so, how large is the reduction?" All four evaluations answered this question by comparing the mean expenditure on food used at home by check recipients to those same expenditures by coupon recipients.[3] "t" tests were conducted on the differences in mean values in order to determine whether the empirical evidence could support a finding that cashout resulted in a reduction in food expenditures.

The demonstration evaluations produced a wide range of estimates of the effect of cashout on food expenditures. Those estimates are reproduced in Table 1. The evaluation of pure food stamp cashout in Alabama found no evidence of a reduction in household food expenditures per adult male equivalent person,[4] whereas cashout in the context of the Alabama ASSETS demonstration was found to result in a 22 percent reduction in food expenditures. The evaluations of the San Diego pure cashout demonstration and the Washington FIP demonstration found cashout-induced reductions in food expenditures between these values. These four estimates are so heterogeneous that it is difficult to draw conclusions from them regarding the likely magnitude of the reduction in food expenditures if cashout were to be adopted in some other location. The small and statistically insignificant estimate produced by the Alabama pure cashout evaluation even introduces doubt as to whether cashout would result in any reduction in food expenditures.

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[3]Each of the four evaluations also conducted a supplementary multivariate regression analysis of the effect of cashout on food expenditures. In each case, the regression estimate of the cashout effect was essentially the same as the simple difference in mean expenditure values. In no case did the statistical test based on the regression analysis lead to a conclusion that was qualitatively different from that based on the simple difference in mean values.

[4]Age- and sex-specific recommended dietary allowances for food energy (National Research Council, 1989) were used to compute household size in adult male equivalent persons.

TABLE 1

MEAN WEEKLY EXPENDITURE PER ADULT MALE EQUIVALENT ON FOOD TO BE USED AT HOME

Cashout Demonstration	Check Recipients	Coupon Recipients	Absolute Difference	Percentage Difference
San Diego Pure Cashout	$29.63	$31.82	-$2.19*	-6.9%
Alabama Pure Cashout	29.43	29.50	-0.07	-0.3
Washington FIP	24.71	29.31	-4.60*	-15.7
Alabama ASSETS	21.03	26.95	-5.92*	-21.9

SOURCE: Ohls et al., 1992, p. 48; Fraker et al., 1992, p. 64; Cohen and Young, 1993, p. 34; Davis and Werner, 1993, p. 34.

*Difference is statistically significant at the 95 percent confidence level.

TABLE 2

MEAN WEEKLY FOOD STAMP BENEFIT AND FOOD EXPENDITURE PER ADULT MALE EQUIVALENT, FOR HOUSEHOLDS RECEIVING COUPONS

Cashout Demonstration	Mean Food Stamp Benefit (A)	Mean Expenditure on Food (B)	Ratio of Mean Benefit to Mean Expenditure on Food (A ÷ B)
San Diego Pure Cashout	$12.00	$31.82	.38
Alabama Pure Cashout	18.35	29.50	.62
Washington FIP	20.95	29.31	.71
Alabama ASSETS	20.08	26.95	.75

SOURCE: Column A is from tabulations of data from the San Diego and Alabama Food Stamp Cashout Demonstrations; Cohen and Young, 1993, p. 83; and Davis and Werner, 1993, p. 29. Column B is from Table 1 of this paper.

FACTORS ACCOUNTING FOR THE VARIATION IN FINDINGS FROM THE EVALUATIONS

There are several likely sources of the heterogeneity in the estimates of the effect of cashout on food expenditures produced by the four cashout demonstration evaluations. One of these is the large variation across the four demonstrations in the size of the average food stamp benefit and, in particular, variation in the size of the food stamp benefit relative to the expenditure on food by coupon recipients. In this section, we present findings generated by an alternate estimator that controls for this variation. There is less heterogeneity in the alternate estimates than in the original estimates. We then discuss suspected biases in the alternate estimates that tend to exaggerate their heterogeneity. Finally we identify several differences across the demonstration sites in the design and implementation of cashout that are also likely to contribute to the heterogeneity of the alternate estimates.

An Alternate Estimator of the Effect of Cashout

In locations where the ratio of the food stamp benefit to food expenditures is small, cashout is unlikely to cause large percentage reductions in food expenditures, since households are using alternative means of payment to purchase most of their food. Table 2 shows that the ratio of the mean food stamp benefit to the mean expenditure on food by coupon recipients is only about half as large in the San Diego demonstration (.38) as in the FIP and ASSETS demonstrations (.72 and .75, respectively). Much of this difference is due to the fact that California provides relatively large AFDC benefits which, because they are included in the computation of food stamp net income, result in relatively low food stamp benefits for California households that participate in both food stamps and AFDC.[5] Approximately 83 percent of food stamp recipients in San Diego also receive AFDC benefits.

Because food stamps are not the major source of food purchasing power for recipients of food stamps in San Diego, we would not expect cashout to result in large reductions in their expenditures on food.

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[5]Among households that participated in the demonstrations the average monthly AFDC benefit was $659 in San Diego (Ohls et al., 1992, p. 42), $125 in Alabama pure cashout (Fraker et al., 1992, p. 59), $381 in Washington FIP (Cohen and Young, 1993, p. 29), and $109 in Alabama ASSETS (Davis and Werner, 1993, p. 29).

In Alabama and Washington, where food stamp recipients rely on food stamps for substantially more than half of their food purchasing power, cashout has the potential to result in substantially larger reductions in food expenditures.

The realization that the relative size of the food stamp benefit might be influential in determining the size of the reduction in food spending resulting from cashout led us to develop an alternate estimator of the impact of cashout that controls for the size of the food stamp benefit. This estimator is the absolute difference between check and coupon households in the mean value of purchased food used at home, divided by the mean food stamp benefit amount for all recipient households. It tells us the average reduction in food expenditures when a dollar of food stamp benefits is cashed out. It can be used to answer the question, "Does cashout reduce the effectiveness of food stamp benefits at increasing expenditures on food; if so, how large is the reduction?"

The alternate estimates of the effect of cashout on household food expenditures that are presented in the third column of Table 3 again show no effect of the pure cashout demonstration in Alabama. However, the alternate estimates for the other three demonstrations are much more tightly clustered than the original evaluation estimates. The table shows that cashout in the San Diego, Washington FIP, and Alabama ASSETS demonstrations reduced the effectiveness of food stamp benefits at increasing food expenditures by between 18 and 28 cents per dollar of benefits. The ratio of the largest of these estimates to the smallest is only 1.6, whereas the corresponding ratio for the estimates of the percentage reduction in food expenditures is 3.1. The alternate estimates are more homogeneous primarily because the alternate estimate for San Diego is much larger than the original estimate. Food stamp benefits tend to be small in San Diego, so cashout resulted in a modest reduction in food spending of $2.19 per adult male equivalent per week, on average. This reduction is only 7 percent of the level of spending under coupon issuance; however, it represents a decline in food expenditures of 18 cents for every dollar of benefits cashed out.

TABLE 3

COMPARISON OF THE CHANGE IN FOOD EXPENDITURES RESULTING FROM CASHOUT WITH THE AMOUNT OF THE FOOD STAMP BENEFIT
(weekly amounts per adult male equivalent)

Cashout Demonstration	Absolute Difference in Mean Food Expenditure Between Check and Coupon Households (A)	Mean Food Stamp Benefit for Check and Coupon Households (B)	Reduction in Food Expenditure per Dollar of Benefits Cashed Out (A ÷ B)
San Diego Pure Cashout	-$2.19*	$12.16	-.18
Alabama Pure Cashout	-0.07	18.19	-.00
Washington FIP	-4.60*	21.81	-.21
Alabama ASSETS	-5.92*	20.85	-.28

SOURCE: Column A is from Table 1 of this paper. Column B is from Ohls et al., 1992, p. E.6; Fraker et al, 1992, vol. II, p. E.6; Cohen and Young, 1993, p. 83; and oral communication from Elizabeth Davis.

*Difference is statistically significant at the 95 percent confidence level.

Suspected Biases in the Alternate Estimates

The alternate estimates of the effect of cashout in the San Diego, FIP, and ASSETS demonstrations are likely to include biases that would exaggerate their differences.[6] We previously noted that the design of the San Diego demonstration is one that would capture few, if any, community effects on food expenditures (because only 20 percent of the caseload was cashed out).[7] This could potentially depress estimates of the effect of cashout in San Diego relative to estimates for the FIP and ASSETS demonstrations, which had designs capable of more completely capturing community effects.[8]

Another important factor to note is the possibility that the comparison (coupon) counties in the Alabama ASSETS demonstration were not well matched with the treatment (check) counties. Davis and Werner (1993) note that there were large preexisting differences in housing costs between the treatment and comparison counties; rents were 50 percent higher in the treatment counties. There is no evidence of income differences, so expenditures other than rent must have been lower in the treatment counties prior to cashout; probably including expenditures on food. Thus, there is reason to believe that expenditures on food in the ASSETS treatment counties were lower than in the comparison counties before cashout was implemented. To the extent that the alternate estimate of the effect of cashout in the ASSETS demonstration reflects these preexisting conditions, it is biased in the direction of being too large in absolute value.

This assessment of suspected biases in the alternate estimates of the effects of cashout on food expenditures in the San Diego, FIP, and ASSETS demonstrations indicates that the elimination of those biases would result in a larger (in absolute value) estimate for the San Diego demonstration and a smaller

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[6]These biases would also be present in the original evaluation estimates and would tend to exaggerate the heterogeneity of those estimates, just as they would exaggerate the heterogeneity of the alternate estimates.

[7]Cashout in San Diego was extended to the full food stamp caseload subsequent to the collection of data that are the basis for the findings cited here.

[8]This discussion assumes that the unobserved community effects of cashout act to decrease expenditures on food, if they are present at all. It is also possible that there could be community effects that would increase expenditures on food, but this seems unlikely.

estimate for the ASSETS demonstration. Thus, the two extreme values among the three estimates would tend to converge if the biases were eliminated and the resultant set of alternate estimates would be more homogeneous than the existing set.

Differences in the Designs of the Cashout Demonstrations

The San Diego and Alabama pure cashout demonstrations share a number of important design features;[9] however, in several important respects the design and implementation of the San Diego demonstration deviate sharply from those of the Alabama pure cashout demonstration and more closely resemble those of the Washington FIP and Alabama ASSETS demonstrations. This may account for the relative homogeneity of the alternate cashout estimates for the San Diego, FIP, and ASSETS demonstrations and for the qualitative difference between those estimates and the estimate for the Alabama pure cashout demonstration.

Differences in the durations of the demonstrations may be important in this regard. The San Diego, FIP, and ASSETS demonstrations were designed to continue for four years or longer.[10] With much publicity, state and local political leaders and welfare officials introduced these demonstrations as incorporating important long-run reforms to the FSP. In contrast, pure cashout in Alabama was designed to be a short-term demonstration and was introduced with little fanfare. It actually lasted for only eight months. Given the brief duration of this demonstration, many check recipients may have decided to use the check benefits in the same way that they had previously used food stamp coupons. A household's adoption of new budgeting, shopping, and food-use patterns would make more sense if the cost of learning the new patterns could be amortized over a longer period of time.

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[9]The two most important ways in which the designs of the San Diego and Alabama demonstrations of pure cashout are similar are the absence of changes other than cashout in the FSP and related programs, and the random assignment of food stamp recipients to treatment (check) or control (coupon) status.

[10]Cash issuance was still occurring in the San Diego, FIP, and ASSETS demonstration sites as of September 1993.

The relationship between the distribution of food stamp checks and the distribution of other assistance payments may also be important. In the Alabama pure cashout demonstration, food stamp checks were issued independently of other assistance checks. In contrast, in the San Diego, FIP, and ASSETS demonstrations, a household that participates in both food stamps and AFDC is issued one check for the combined amount of the two benefits.[11] A notice accompanying the check provides a breakdown of the combined benefit into its component parts, but many recipients of these checks in San Diego were unable to report the approximate amount of their food stamp benefit. This intermingling of the food stamp and AFDC benefits may compromise the ability of recipients to reserve the food stamp benefit for the purchase of food, thus resulting in a larger reduction in the use of purchased food at home than would be the case if the two benefits were issued independently. The percentages of food stamp participants who also participated in the AFDC program and therefore received a combined benefit check are 100 percent in the FIP demonstration, 83 percent in the San Diego demonstration, and 19 percent in the ASSETS demonstration.

The extended duration of cashout and the issuance of combined food stamp and AFDC benefit checks are important ways in which the Alabama pure cashout demonstration differed from the other three demonstrations. These design features are ones that would tend to result in a smaller estimated effect from the Alabama pure cashout demonstration and may help to explain why it stands as an outlier when compared with findings from the other three demonstrations.

SUMMARY AND CONCLUSIONS

The original evaluations of the food stamp cashout demonstrations produced estimates that answer the question, "What is the effect of food stamp cashout on food expenditures by recipient households?" The evaluations of the San Diego, Washington FIP, and Alabama ASSETS demonstrations found that cashout resulted in reductions in food expenditures ranging from 7 percent to 22 percent. In contrast,

[11]In the ASSETS demonstration, households that qualify for a combined food stamp and AFDC benefit in excess of $200 receive two checks per month, each for half of the combined total monthly benefit.

the evaluation of the Alabama demonstration of pure cashout found no effect on food expenditures. Even if the estimated effect of pure cashout in Alabama is set aside, these estimates vary so widely that it is difficult to draw conclusions from them regarding the likely effect of cashout if it were adopted in other sites or nationwide.

This paper has argued that a more useful question to be addressed on the basis of the data from the cashout demonstrations is, "What is the effect of cashout on the effectiveness of food stamp benefits at increasing expenditures on food by recipient households?" This question can be answered without extensive reanalysis of the cashout data. All that is required is to evaluate each of the existing estimates of the reduction in expenditures resulting from cashout not as a percentage of the mean level of spending on food by coupon recipients, but as a proportion of the mean food stamp benefit amount. The alternate cashout estimator tells us the average reduction in food expenditures per dollar of benefits that are cashed out. This estimator takes on a value of zero for the Alabama pure cashout demonstration, but the values for the other three demonstrations range from 18 to 28 cents. The latter values are far more homogeneous than the corresponding values generated by the original estimator. This homogeneity derives from the fact that the alternate estimator controls for the size of the average food stamp benefit. For this reason, the alternate estimates reported in this paper should be more useful than the original estimates in the development of benefit-issuance policies for the FSP.

While this analysis substantially reconciles the estimates for San Diego, Washington FIP, and Alabama ASSETS, it does not by itself address the issue of why no effect was found for the Alabama pure cashout demonstration. The lack of an effect in this demonstration as compared with the others appears to be related to features of the design and implementation of the demonstrations. Cashout in the former demonstrations was heralded as an important long-term improvement in the operation of the FSP. In the latter demonstration, it was introduced with little publicity as a brief demonstration. Also, food stamp and AFDC benefits were combined in a single check in the former sites, but were issued in separate checks in the latter demonstration. These differences are ones that would tend to depress the

estimated effect of cashout based on the Alabama pure cashout demonstrations relative to estimates based on the other demonstrations. We believe that the designs of the San Diego, Washington FIP, and Alabama ASSETS demonstrations are more likely to resemble a fully-implemented policy of food stamp cashout than is the design of the Alabama pure cashout demonstration. Therefore, we believe that the alternate estimates based on those demonstrations are more reliable indicators of the long-run effects of cashout than is the alternate estimate based on the Alabama pure cashout demonstration.

The values of what we believe to be the more reliable estimates of the long-run impact of cashout on the effectiveness with which food stamp benefits increase food expenditures range from reductions in food expenditures of 18 cents per dollar of benefits cashed out to 28 cents per dollar. We have presented reasons why the estimate from the Alabama ASSETS demonstration that constitutes the top of this range is almost certainly too high and why the estimate from the San Diego demonstration that constitutes the bottom of the range is probably a little low. Rough adjustments for these biases in the estimates imply a reduction in food expenditures of between 20 and 25 cents per dollar of benefits cashed out.

A reduction in food spending of 20 to 25 cents per dollar of food stamp benefits cashed out is too large to be regarded as insignificant from a policy perspective. In fiscal year 1992, the FSP issued benefits worth a total of $21 billion, while incurring $1.5 billion in administrative costs,[12] of which benefit issuance accounted for about 10 percent.[13] The adjusted cashout estimates that we have presented imply that between $4.2 billion and $5.25 billion of those benefits that were used by recipient households to purchase food under coupon issuance would have been used for other purposes under cashout. Thus, the aggregate amount of benefits that would be diverted from their intended purpose as a consequence of cashout greatly exceeds any possible savings in benefit issuance costs or other costs of administering the FSP.

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[12]These are costs borne by the federal government. The states bore additional administrative costs of $1.3 in fiscal year 1992.

[13]Reported issuance costs are actually several percentage points lower than 10 percent of total administrative costs (Ohls and Beebout, 1993, p. 85). The 10 percent estimate allows for some reporting of issuance costs in other administrative categories.

Title Page

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